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TABLE OF CONTENTS

An Administrative Appraisal of Programs for Individualizing Instruction ..... *E. E. Lewis* 133

An Analysis of Problems Involved in a Study of School Failure, *A. O. Heck* 138

Editorial Comment:
Thinking Statistically 142

Bureaus of Educational Research and the Special Class Program, *H. B. Chapman* 144

On the Firing Line 146

Educational Readings 148

New Tests 153

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COLLEGE OF EDUCATION
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Educational Research Bulletin

AN ADMINISTRATIVE APPRAISAL OF PROGRAMS FOR INDIVIDUALIZING INSTRUCTION[1]

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There are two ways of appraising educational programs; one is in terms of theory, and the other is in terms of practice. The engineer, before he builds, draws his plans and makes his specifications in great detail. He puts down on paper an accurate picture of the structure and tries to anticipate every obstacle that is likely to be encountered. In this way the construction proceeds stone upon stone; the finished building looks like the picture, and the picture looks like the building.

Unfortunately, the educator cannot proceed with the exact technique of the engineer, for he deals with human qualities, and his standards for appraising either the theoretical or practical aspects of an educational program are necessarily subjective and indefinite. The educator cannot measure but he may judge. The school administrator has certain criteria by means of which he judges the value of a new plan in education.

The most commonly used criteria are:

1. Is the idea sound in theory, that is, is it in the best interests of childhood?
2. Is the idea strange or novel?
3. Is the idea generally accepted by the most expert opinion? Or is expert opinion badly divided?
4. Has the idea or plan been fairly and thoroughly tested in practice?
5. Has the plan proved reasonably successful when fairly and thoroughly tested? Is it an improvement over the present methods?
6. Would the adoption of the plan appeal to teachers, parents, children, and taxpayers?
7. How extensive and how violent a reorganization of the local school system does the adoption of the new plan necessitate?
8. What kind and amount of pre-education of teachers, pupils, and parents is necessary, and what are the best means of offering this education?
9. What is the best manner of introducing the plan locally? Should it be introduced gradually step by step, or simultaneously?
10. What will it cost and how can it be financed?

When a school administrator can answer all these questions satisfactorily, he may try out the new program with a reasonable assurance of its success.

Let us apply these ten criteria to the programs for individualizing instruction as they exist in the United States today. They may be classified and described under seven headings.

1. *Special classes.*—Under this heading are included classes for deaf children, for crippled children, for subnormal and gifted children, and for children suffering from nutritional and other physical or mental deficiencies or peculiarities. Individualizing instruction by special classes is now widely recognized and generally used, except in smaller communities where numbers make it economically impossible.

2. *Ability grouping or X–Y–Z classes.*—Various schemes of ability grouping

[1]Read before the Dallas Meeting of the Department of Superintendence, Section C, Tuesday, March 1.

prevail. Sometimes the brighter groups are allowed to finish the grade or course in less time. In other places all the children remain in school the same length of time, and the course of study is enriched for the brighter pupils. The latter plan is rapidly gaining favor where such classification is used. Ability grouping is not restricted to the elementary and secondary schools but is also found in colleges and universities. No claim is made that all the pupils of a given ability group are equal in capacity or in interest. In fact, no group has yet been found in which the pupils composing it possess equal amounts of any one ability.

3. *Remedial or supplemental instruction.*—Here should be listed the so-called "Batavia plan" and all other schemes which have for their purpose the coaching of laggards, skippers, or children otherwise exceptional. This coaching may be done by supplemental instruction within or after school hours.

4. *Pedagogical clinics for problem children.*—This variation of the schemes of remedial or supplementary instruction provides special opportunities for pupils who encounter unusual difficulties in their school work.

5. *Differentiated assignments.*—By this plan, which may be used in a variety of ways, a pupil may be given assignments in addition to the minimal requirements, for which he may or may not receive credits in one form or another. This scheme is in operation in the University High Schools of Chicago and the University of Wisconsin. Some teachers believe that this is the best of all the schemes for individualizing instruction, for it preserves the group method and yet cares for the individual.

The adoption of any or all of these five methods is commendable in any school system regardless of size, for they succeed in doing at least in part what they are designed to do. They may be introduced without destroying the present form of classroom organization. Teachers, principals, boards of education, pupils, and parents readily recognize their value.

Ninety-nine administrators out of a hundred stop at this point. They feel that when they have done this much for the exceptional pupils they have accomplished all that is possible or necessary. None of these schemes is more than thirty years old. In fact, most of them were very recent devices, and their wide-spread adoption is at least a compliment to the progressiveness of school administrators.

Two additional programs for individualizing instruction remain to be described. These are the Winnetka plan and the Dalton plan.

6. *The Winnetka plan.*—This scheme of individual instruction was invented by President Frederick W. Burke of the State Normal School at San Francisco about twenty years ago. Mr. Washburne, one of Mr. Burke's pupils, has applied this scheme to the elementary grades of the school system of Winnetka, Illinois.

In Winnetka the curricula of Grades I to VIII are divided into two parts. One part deals with knowledges and skills which each child alike needs to master. The other part provides for each pupil the opportunity to contribute to the group something of his own special interests and abilities. To provide for these two types of instruction, half of each morning and half of each afternoon are devoted to *individual work* in the common or minimal essentials, while the other half of the morning and afternoon sessions is given over to *social activities.* During the group periods no goals are set, nor are the pupils tested.

No child ever fails, nor ever skips a grade. There is no X-Y-Z grouping. There are no recitations. The teacher spends her whole time teaching individuals or small groups. The common essentials in each subject are absolutely

required. Each child is on a piece-work basis. Each piece must be done before the next piece is started. The children are assigned by grades to a room and to a teacher and are promoted, not annually or semiannually, but whenever it seems to the best advantage of the child. If the plan is rigidly adhered to a child is never allowed to skip the completion of a goal or an assignment. Very dull and stupid children would therefore never advance beyond the third or fourth grade. It is, therefore, necessary to promote the pupil when it seems to his advantage. The chief difficulties in adopting the Winnetka plan seem to be the making of the goal books or short-unit assignments and a sane and wholesome administration of promotions.

7. *The Dalton plan.*—The fundamental principles of the Dalton plan are: Individualized instruction and self-instruction, so that the child may work up to the normal limits of his capacity in accordance with his interests. Freedom so that each child may work at his own speed and in his own time. This is obtained by allowing the child to study continuously at one assignment as long as it is necessary to complete it if he wishes to do so. The third principle is community living.

A Daltonized school is departmentalized. There is an English laboratory, a social-science laboratory, and a laboratory for each of the other subjects. The child budgets his own time according to the needs of the assignment and his interests. He does not move with the class at stated intervals. To me this is the most attractive feature of the Dalton plan. It is a feature not found in any other scheme for individualizing instruction. This plan does not require the completion of an assignment before a new assignment is given. I am impressed, as I study the Dalton plan, with its flexibility and plasticity. The three fundamental principles are the key to its success. Technique is of minor importance and is necessarily changed to fit the changing teacher.[1]

The Winnetka and the Dalton plans break away decidedly from the traditional group method of organization. The first five methods retain the group method and adapt individual instruction to it, but the originators of Winnetka and Dalton plans do not believe that the first five schemes are sufficient. They want a method by which each child is permitted to move forward at his own rate. Since they believe in "education for responsibility," each child is expected to depend upon his own resources. In doing this they feel that it is impossible to retain the present form of classroom organization with its uniform pace and annual or semiannual promotions. They argue that ability grouping, problem clinics, and the like are but half-way steps and do not fully solve the problem of adjusting the schools to individual differences. The first five schemes take care of exceptional children but do little or nothing for the average child.

So serious a challenge to the group method of instruction deserves more than passing attention. In the history of education we read that a type of individual instruction was in vogue in Europe and in America down to the middle of the nineteenth century. There was practically no group instruction. No one had heard of it. A socialized recitation was unknown. In reading, writing, and arithmetic the pupils in colonial schools were taught as individuals and not as groups. Parker says:

> Generally the pupils of a room were roughly classified into three groups according to their reading ability, but each pupil in the group was taught in the same manner as if he had been alone. Very little of the teacher's time or activity was

[1] These seven plans or programs for individualizing instruction are fully described in the *Twenty-fourth Yearbook of the National Society for the Study of Education*, entitled, "Adapting the Schools to Individual Differences."

expended in actual instruction. The giving of information by the teacher, or inductive discussions by the group, were almost unheard of. This historical method of individual instruction consisted simply of hearing individual recitations.

This method was so wasteful and so uninteresting that it is recorded that children would "often attend school for years and get only a smattering of reading and writing." As the population increased and school attendance grew in volume, it became necessary to abandon the old tutorial and individualistic methods and to create effective group methods of instruction.

De la Salle used and popularized the method of giving the same lesson to the whole class. This was the beginning of the so-called "group" or "socialized" recitation. The children all studied the same assignment and came up to recite together. In the history of education we read that immediately it was recognized that this was a more economical procedure, and a procedure more interesting and pleasing to the pupils. Bell and Lancaster followed De la Salle with manuals of instruction describing the monitorial or mutual instruction system. This was another step toward the group or socialized method. By 1850 individual recitations were generally abandoned and group recitations substituted.

From these simple inventions present-day group and socialized methods have evolved. Group methods of instruction are now universally practiced and quite generally approved. No one suggests a return to the tutorial or to the individual instruction of colonial days which was not instruction at all, but was merely the hearing of individual recitations. On the other hand, no one would claim that the present form of group instruction is the last and most perfect that it is possible for man to devise.

In fact, there is a growing dissatisfaction with the amount of retardation, grade repetitions, non-promotions, eliminations, loafing, neglect of the gifted child, and other evils all too prevalent that seem to be inherent in the group methods of instruction as now practiced. Educators throughout the world today are searching for an inexpensive, simple, and easy administrative scheme by means of which individual instruction may be adapted to individual differences and still not sacrifice the socializing values of group instruction. At first thought, the two methods—individual instruction and group instruction—seem as wide apart as the poles. How can we have the advantages of the one without sacrificing the advantages of the other? This, to me, is the very heart of the problem. As Reavis puts it, "How can one instruct children *en masse* and at the same time individualize?" It is comparatively easy to do one or the other. It is extremely difficult to combine the two.

The desirability of individualized instruction is no longer questioned by any one. Psychology teaches us that one's education is, in the last analysis, self-education. *I* cannot teach you anything. *You* cannot teach me anything. *I* must teach myself and *you* must teach yourself. The classroom should no longer be a teacher's room, but it should be a *child's learning laboratory*. The capacity to learn and the will to learn are individual characteristics and should be dealt with as such. School administration should be so adjusted as to recognize and to deal with individual differences effectively.

Likewise, the desirability of socialized or group instruction is no longer questioned. A child must become "an intelligent participator in the life of his immediate group." He must learn to live and work with others. Social emulation, social stimulation, social intimacy and cooperation, and social competition are natural and wholesome. No scheme of individualization can

safely neglect the socializing values of education. In fact, some would go so far as to say that the only purpose of individualization is socialization. The end and aim of man's existence is not in *egoistic* but in *altruistic* outcomes. If individualization is to be pushed to the extreme, the child had best remain at home and receive correspondence lessons, going to school but once or twice a month for the purpose of being checked up on his work, and getting additional assignments. Most of us who have attempted to take a correspondence course realize what we miss when the social stimuli—the give-and-take, the team work—that goes with group instruction is absent. How dull and uninteresting school would be if there were no opportunities provided for team work.

The seven plans for individualizing instruction are steps in the progressive readjustment of school administration to new ideas. Public-school administration is becoming more constructive and creative. Every administrator should feel that it is his duty to do a certain amount of experimentation. He should realize that there is no one best way of doing anything. He should be constantly searching for better ways. To do this he must be a diligent student of creative education. The greatest field of experimental education today is in the public schools. Extensive experimentation alone will determine the real contribution that these seven programs for individualizing instruction have made and are making. There is nothing to be feared by the most conservative administrator in any of these schemes. They are neither impossible nor impracticable. They meet the test of the ten criteria stated at the beginning of this paper. They are all in the best interests of childhood. The ideas are not strange or novel. They have been fairly and thoroughly tested and proved reasonably successful. They do not destroy anything worth while in the present school system, nor does their introduction involve insuperable obstacles. The additional cost of special classes, of X–Y–Z grouping, of problem clinics, and the like seems justified by the results obtained. There is nothing to show that the adoption of the Winnetka or Dalton plans would require a marked increase in the cost of education.

Perhaps one of the most attractive features of all of these plans, especially the Dalton and Winnetka programs, is the attention given to the making of an intelligent assignment. Anything that improves the traditional methods of making the assignment cannot help but be an advancement. Present-day assignments are frequently too long or too short; too easy or too difficult; too vague or indefinite. They are often uninteresting. Too frequently they do not challenge the creative and inventive faculties of the child. Any reformation that improves the teacher's assignment should be hailed with delight. Children are happy if they are required to work at their normal capacity, at tasks in which they are interested and which are worth while. Any scheme which causes children to work in this manner is certainly superior to the traditional practice. The Dalton plan is especially attractive from the viewpoint of teaching by projects.

Administrators may be distributed according to the normal curve of probability. According to this curve, about 7 percent belong in the creative class; about 24 percent in the constructive class; about 38 percent are of the laissez faire type; about 24 percent are indifferent; and about 7 percent are destructive. I have been led to believe that such a distribution is not theoretical, but is a fair appraisal of school administrators as they exist today.

In a country where education is almost totally in the hands of laymen—where administrators are free to do or

not to do as they please, and where administrators are constantly threatened with extinction, we must not expect a sudden change from the established methods of procedure. Indeed, considerable satisfaction may be derived from the knowledge that, in twenty years, individual instruction has made the progress it has, due to the courage and creative and constructive genius of a few outstanding proponents.

Everyone searches for the easiest and the most efficient method of doing a thing. School administrators are no exception to this general rule. The old individual method of instruction gave place to group instruction chiefly because group instruction was easier or more efficient to administer. The simplest and the easiest school to administer is a group of independent classrooms housed under one roof, each classroom teacher a law unto herself. Departmentalization is harder to administer, hence the resistance to departmentalization. The platoon, or work-study-play, program is still harder to learn and to manage. It therefore makes progress slowly. Special classes are easier to administer than the Winnetka or Dalton plans. It seems safe to predict that the scheme of individual instruction that will most rapidly come to prevail will be the simplest and the easiest one to be learned and to be administered. In saying this I do not mean to imply that teachers are harder workers than administrators or that administrators are harder workers than teachers. We are all human and share rather equally in human virtues and human frailties. The primary consideration in schools has been, and will continue to be, ease of administration. Better and more efficient methods of instruction will continue to be resisted. Better methods will be accepted only when sufficient pressure of internal conviction or external influence breaks through the inertia of established habits.

AN ANALYSIS OF PROBLEMS INVOLVED IN A STUDY OF SCHOOL FAILURE

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FROM a classification of the causes of school failure and the defects of most failures studies, taken up in the second article of this series,[1] we come to suggestions for the reduction of the number of pupil failures. The five means of reducing school failures which will be discussed here are use of the normal curve, the problem-project method, the Buckingham plan, the Rochester plan, and the case-study method. The first four methods represent distinct types of procedure, while the case-study method should be involved in all of the others and yet may be used alone.

These plans were selected for discussion because each emphasizes a different principle in eliminating failure. The first suggests a definite percent above which the percent of failure should not go, while the second points out that a change in method is necessary for creating interest and decreasing failure. In the third, failure is based upon inability to do work of the succeeding grade and special aid is given to the pupils who are on trial. Under the fourth plan enrollment is limited to those who have a fair

[1] See pp. 67–73 and 89–92 of this volume.

chance of succeeding in the course. The fifth demands a personal study of all pupils in danger of failing.

Use of the normal curve.—The theory involved in the normal curve distribution suggests that if a large non-selected group of men were measured for any trait, such as height, weight, or mental ability, a great many would have average measures; the number having higher and lower measures would lessen in equal amounts, and only a very few, who would also be equal in number, would have exceptionally high and low measures. By "non-selected group," we mean a representative group of men from a given class. For example, if we were to select two hundred baseball players from all professional players in the United States by the simple device of listing them alphabetically, and choosing for instance, every fifth name, we would have a non-selected group.

Figure 1 is an illustration of a normal distribution of school marks which approximates the normal curve. According to the figure, 7 percent would be given marks of A and E, 24 percent marks of B and D, and 38 percent marks of C. Various marking systems make use of slightly different percents but the theory underlying each of them is identical.

If the normal curve is strictly applied, the percent of failure is reduced in all cases where former percents were greater than the percent suggested for E by the normal curve. The defects of the method, when applied to a class group, are obvious: a class of thirty or forty frequently represents a select group and therefore the pupils do not distribute themselves according to such a curve; and, also, the group is too small to give a good normal distribution even if the members are selected at random. The advantages are that it becomes a check upon the teacher who habitually gives no failing marks or a great many of them, and that the teacher who feels the necessity of giving many failing marks is forced to defend them, which, in many cases, undoubtedly lessens failure because more factors are taken into account and a truer estimate is rendered.

The problem-project method.—According to this method, used in Sumner High School, Kansas City, Kansas,[1] the year's work was divided into ten general topics under which subtopics were then listed. Each subtopic required about a week's work and was a unit within itself, although a part of a larger problem. The development of a subtopic involved four steps, assignment of the problem,

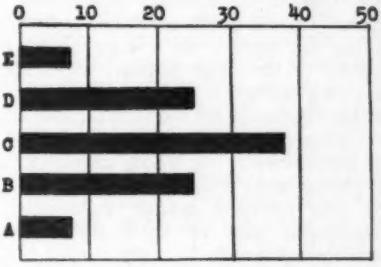

Figure 1. A Proposed Grouping of School Marks Approximating the Normal Curve

reading and assimilation, organization, and recitation. The pupils worked with the teacher in making the assignment. Two periods were given to the second step, in which the pupil read, consulted maps, made charts, took notes, and learned facts. A written exercise followed, usually taking half a period, in which the material was organized. The remaining period and a half were used for recitation.

This plan represents a distinct adjustment in teaching method. It is described because it represents one of the definite attempts which teachers

[1]Kansas City, Kansas. "This Plan Reduces Failure," *School Bulletin*, 2:3, March, 1924.

are making to put new life into the teaching act. The danger that such an example may be copied literally and thereby become dead and uninteresting always exists, of course. If, however, the idea contained in the plan stimulates us to do a bit of original thinking ourselves, in striving to make our classroom work more interesting, we will have found that which is needed to create an interest upon the part of pupils and failure will be lessened.

The Buckingham plan.—Five essential features are embodied in this third plan for reducing failures. (1) All pupils are promoted to the next higher grade regardless of the teacher's recommendation. (2) All pupils recommended for failure are subject to a regimen not applied to the other pupils. (3) The receiving teacher is given six weeks to decide whether or not the child is capable of doing work in the new grade. (4) Responsibility for failing each child is placed upon the receiving teacher. (5) The receiving teacher follows a prearranged plan of work for each probationary pupil.

Work planned for the receiving teacher involves keeping a record for every probationary pupil which shows the child's record the previous semester, his record of work done during the trial period, what the teacher has done for the child, and the teacher's recommendation at the close of the probationary period. Specific activities have been suggested for receiving teachers which include visiting the pupils' homes, interviewing the parents, giving pupils help outside of school hours, adjusting the course of study, varying the methods of teaching, using pupil cooperation, reporting daily to parents, and sending home the pupils' class work.[1] Each of these eight measures was described enough in detail to give the teacher a good idea of its utility.

[1]Buckingham, B. R. "An Experiment in Promotion," *Journal of Educational Research*, 3:326-35, May, 1921.

The Buckingham plan was used in two Illinois cities, Springfield and Decatur, during the years 1918-20. In the first semester of its use, more than 75 percent of the 1,276 children promoted on trial made good and but 172 were recommended for failure at the close of the semester. The plan reduced failure to 5 percent.

Cuyahoga County schools tried the plan in the fall of 1923. Excluding the first grade, 71 percent of all the children promoted on trial made good. The plan was also used in 1923 by Superintendent Maston at Martins Ferry, Ohio. One hundred and sixty-six pupils in Grades II through VIII were failed in June. In September, 144 reentered school and all chose to enter the advance grade. At the end of eight weeks, 106 pupils, or 74 percent, were retained. Of these, only 8 percent failed at the close of the semester. Mr. Maston says, "The experiment has conclusively proved that many students who ordinarily fail, do so because of our inability to stimulate them to their best efforts."[2]

The Rochester plan.—Miss Crafts, of the East High School at Rochester, New York, uses what she calls "a campaign to reduce failure in demonstrative geometry." An intelligence rating for each pupil is recorded upon a permanent record card and a set of cards is kept by the teacher showing the pupil's name and age, the nationality of his parents, his previous success in mathematics, the reasons for his previous failures, and plans for the future. Data from Miss Crafts's investigations suggest that pupils below fourteen years mentally might profitably defer demonstrative geometry or choose a course not requiring it. It is the teacher's task to "stimulate the pupils to greater effort by the use of immediate incentives, such as exhibits of good work, honorable mentions, honor

[2]Ohio State Department of Education. "Fifty Thousand Children May Be Saved from Failure," *Better Schools Bulletin*, 5:3, August, 1924.

rolls, and such modifications of classroom procedure as study and experimentation may suggest."[1] Miss Crafts feels that 50 percent of the failures in demonstrative geometry can be prevented.

The case-study method.—Probably no subject emphasizes the need for case study more than does that of school failure. As has been pointed out, any attempt to determine real causes of failure demands that careful attention be given to individuals. Each of the foregoing plans for reducing failure requires a study of individual pupils. In using the normal curve teachers must be able to justify any extremely large failing group, which cannot be done unless they know the children. Under the problem-project method, some knowledge of the pupils' interests is necessary if the teacher is to be successful in setting up a problem of real interest for the group. The success of the Buckingham plan depends upon the intimate relationships established between the teacher, the pupil, and his home. Miss Crafts also insists that permanent records of the pupils be kept which are available to the teacher and are not filed away in the principal's office.

Other writers specify or imply the absolute need of more case study if failures are to decrease without a mere lowering of standards. Miss Leatherman, in an article entitled, "Anticipating Student Failures,"[2] says, "The study of each individual should have begun in his early childhood." In discussing work for maladjusted students, she says, "How much better if in their grade-school days diagnosis and treatment had given them an earlier start into normal behavior and attitudes." Professor Wood of Columbia University, commenting on the 35 percent of college Freshmen who fail to achieve their goal, suggests that one cause is the lack of proper guidance. He feels that colleges should demand from secondary schools "cumulative records of achievement based upon objective reliable measures of known significance," and that when such adequate records are furnished, "consideration of college admission may begin where it should always begin, during the first high-school years."[3]

A number of other conclusions are reached in similar articles dealing with school failures. "More attention should be given to habits of study and social adjustments of dull pupils," is stated by one investigator.[4] "The fact that there are so many causes of failure in arithmetic problems emphasizes the importance of deliberate study of individual difficulties before remedial instruction is applied," appears in an article on failures in arithmetic.[5] Both pupil failure and pupil elimination " make a strong appeal for the appointment of sympathetic and helpful teachers as student advisors from the very time of their entrance,"[6] according to Dr. O'Brien's study of high-school failure. In that he also says, "Records, adequate and complete, should be a part of the business and educational equipment of every school. The exposition and use of these facts as recorded will then give direction to school progress, and dethrone the authority of assumption and opinion."[7]

The studies which have been made in this subject magnify the importance

(*Continued on page 143*)

[1]Crafts, Lillian L. "Causes of Failure in Plane Geometry as Related to Mental Ability," *Mathematics Teacher*, 16:481–92, December, 1923.

[2]Leatherman, Zoe Emily. *Educational Research Bulletin*, 5:11–14, January, 1926.

[3]Wood, Ben D. "Relation of College Curricula to Educational and Vocational Guidance," *School Life*, 10:129, March, 1925.

[4]Peters, Edith C. "A Substitute for Failure," *Educational Research Bulletin*, 4:182–85, April, 1925.

[5]Roling, Pearl, Blume, Clara, and Morehart, Mary. "Specific Causes of Failure in Arithmetic Problems," *Educational Research Bulletin*, 5:272, October, 1924.

[6]O'Brien, Francis P. *The High-School Failures: A Study of the School Records of Pupils Failing in Academic or Commercial High-School Subjects*. New York, Teachers College, Columbia University, 1919. p. 89. (Teachers College, Columbia University, Contributions to Education, No. 102).

[7]*Op. cit.*, p. 97.

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THINKING STATISTICALLY

PROFESSOR George Boas in a brilliant article in the March issue of *Harpers Magazine* points out that with the development of statistical method a new way of thinking—that is, a new type of logic—has come upon the scene. According to the mode of thinking employed from Aristotle to Huxley everything belonged to an appropriate class. The camel, the bear, and the humming bird each had its fixed characteristics. A novel had certain features which made it a novel, a dollar was a dollar even if it would purchase but a third as much as formerly, soldiers were brave and women were fair. The world was nicely marked off into types.

Our thinking with reference to products and processes, creatures, and creations, now centers around the statistical class.

We recognize that bravery is an attribute which may vary all the way from foolish, rash, romantic timerity to the timidity of those who "scenting the acrid perfume of the artillery, scuttled off to Washington and got jobs in the Judge Advocate General's Department." We realize that all women are fair only in theory and that if we arranged them in the order of fairness we should have at one end the face that launched a thousand ships and at the other end the face that would stop a clock.

It has sometimes been asserted that the application of statistics has resulted in an attempt to make people all alike, to turn children out of the school like buttons out of a mill, each with the same handwriting, the same speed of reading, and the same accuracy in arithmetic. This is a charge which is entirely without foundation. The fact is that individual differences were never more clearly recognized than they have been since means of measurement and the statistical treatment of measurement have been employed. Never has personality been more easily distinguished nor more highly respected than in recent years. This is true in every walk of life. Even the physician recognizes that one may have a very common disease in a very personal way. We do not characterize men or children as brave, honest, generous, quick, accurate. We seek to express how much and how many, leaving to readers or hearers the task of deciding whether certain epithets apply. In accordance with the requirements of statistical thinking, we do not say that a man is tall, we say that his height is five feet eleven and three-fourths inches. Whether he is a tall man or not depends upon one's experience and use of language. Whether we say that a person who departs from the average by as much as three and three-fourths inches when the standard deviation is two inches, is in reality a tall man, is relatively unimportant. Knowing these numerical facts we have a much more valid basis for thought than any epithet can provide.

Accordingly, Professor Boas says that thinking today is different from what it used to be. This is not so much because we think of different things as it is because we think differently about the same things. Our very logic is different from that of our grandfathers.

The old dichotomous classifications no longer pass muster. It is not enough to divide creation into big and little, hot and cold, long and short; it is not enough to rate men as tall and short, fat and lean, rich and poor. Most things fall into statistical groupings. They exhibit a norm or type and are characterized by profoundly significant variations. Indeed, it is the variation which statistics is especially emphasizing. This corresponds to changing conceptions in social and economic matters. Variation and not type, diversity and not uniformity, development and growth rather than inertia, are at once the manifestations and the objectives of the social order. In times past there were a few simple types of music. If a given production failed to classify as one of these, it was not music. It might have been said of a given production that it was fine or beautiful; but it was not music. In these days one is inclined to say, "What of it?" We tend to broaden our conception of music to include these more novel forms of expression. The time was in the eighteenth century when the drama was a rigid artistic medium. We have all read of the tumult in Paris when the first of the great romantic plays, Hugo's "Hernani," was presented. The classicists admitted its appeal, but it violated the unities so it was not even a play but something nameless and apart.

The objectives of modern life are also different now. How far has statistical method been instrumental in this? How far are both this and statistical method a common result of a more fundamental cause? We do not know, but it is well to remember in appraising the services of statistical science that it is peculiarly appropriate to modern thinking and to modern life. In particular, it exalts the individual; it distinguishes, discriminates, and evaluates, not on the basis of conformity but on the basis of personality, individual differences, and growth.

AN ANALYSIS OF PROBLEMS INVOLVED IN A STUDY OF SCHOOL FAILURE

(*Continued from page 141*)

of every teacher's having a thorough knowledge of her pupils, if failures are to be lessened. Case studies which should be included as a regular part of our teaching technique shift the emphasis from subject-matter to child—in the past the former has monopolized attention. We should not, however, be less prepared on subject-matter, but should be better prepared to understand the child. Such an understanding can only come through a more intimate knowledge of his school history, home life, abilities, likes and dislikes, and ambitions. A permanent school record of each child will further this newer teaching preparation and thus lessen failure.

SUMMARY

Any school system which is failing a large percent of its pupils will do well to call the attention of teachers to the theory and use of the normal curve as a means of distributing school marks. Any adjustment of methods which will increase the interest of pupils should decrease the percent of failure. Buckingham's adaptation of an older practice of promoting pupils on trial greatly reduces failure. Rochester would reduce failure by selecting pupils capable of mastering the work of given courses. In all these plans—and in other plans not mentioned in this article—for reducing failure, the necessity of knowing the child is abundantly recognized.

A second printing of *Aspects of Thorndike's Psychology in Their relation to Educational Theory and Practice*, by Dr. H. Gordon Hullfish, of the Department of Principles of Education at Ohio State University, is now available. This monograph may be ordered through the Ohio State University Press.

BUREAUS OF EDUCATIONAL RESEARCH AND THE SPECIAL CLASS PROGRAM

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A CLASS for backward children, organized in Providence in 1896 was the first special class for atypical children established in the United States. Such classes had been in operation in a number of cities in Germany from about 1885. The second city in the United States to establish a class of this kind was Springfield, Massachusetts, which was followed in successive years by the establishment of one or more such classes in Chicago, Boston, New York, Philadelphia, and Los Angeles. By 1921 there were 99 cities which had classes for the mentally defective and 220 which made provision for backward children. In 1913, Wallin secured returns from 302 cities which showed 108 classes for the feeble-minded and 111 classes for the retarded. Such has been the rapid growth of the special-class movement.

Prior to the development of mental tests through the work of Sequin, Binet, Simon, and others, many of the so-called "classes for feeble-minded children," "opportunity classes," "ungraded classes," and the like became the dumping ground for misfits of all kinds, the dull and delinquent as well as the mentally deficient. It became, therefore, the province of the testing movement to devise techniques by which children who deviated widely from the normal might be segregated into homogeneous groups according to their own special needs. In some cities the administration of the program of selecting children for special classes came to be a function of the bureau of educational research. This was a natural evolution. The bureau had had its inception as a testing agency. The segregation of pupils for special instruction, therefore, was merely a normal extension of the field of service of such bureaus, especially since many of the children most in need of being assigned to a special class were discovered through its testing programs.

According to our recent study of the work of research bureaus, nearly 60 percent of the bureaus in city school systems are charged with some responsibility in the matter of organizing and administering special classes. The nature of this responsibility varies widely from city to city. Most of these bureaus, however, are concerned with requirements for admission, especially those which concern the subnormal groups.

According to the replies received from an inquiry addressed to the directors of research bureaus, there seems to be substantial agreement that pupils who are to be admitted to classes for the subnormal must have an intelligence quotient between 50 and 70 or 75, together with certain other characteristics which were not enumerated. Similarly for gifted classes, of which there were only a few reported, the standard requirement should be an intelligence quotient in excess of 120.

In the matter of the ideal enrollment, there is likewise a fair degree of uniformity in the views of the directors of the bureaus concerned. The upper limit is usually eighteen or twenty. One bureau sets the enrollment limit so that classes have an average daily attendance of at least fifteen. Dr. W. W. Coxe, director of the Educational Measurements Bureau, of the New York State Education Department, in an official bulletin entitled, *Organization of Special Classes for Subnormal Children*, recommends from ten to fifteen as the

most desirable enrollment for such classes. This statement is significant since it indicates the policy of a great state which has taken an advanced step in the promotion of special education. In addition to the advisory services of the Educational Measurements Bureau, the state also makes money grants to towns which maintain special classes.

Most bureaus of research which deal with special classes have a large part in their supervision and, if not full responsibility, at least advisory prerogatives. This does not extend, however, to the selection of teachers although, here again, the directors of the various bureaus often have large indirect powers.

In addition to the more familiar types of organization, such as classes for the mentally defective, the deaf, the blind, and the handicapped, there are a number of interesting, and possibly less-known, arrangements which have been developed by research bureaus and are worthy of description in this connection.

The Department of Psychology and Educational Research, Los Angeles, has organized its work for the subnormal in so-called "development centers," in addition to the more usual special rooms. In March, 1926, there were eight of these centers with an average enrollment of one hundred. Children from six to sixteen are admitted. The department has supervisory jurisdiction and regulates the size, location, and equipment of all rooms for instruction of the subnormal.

In many of the development centers there are classes for the very low grades of deficiency, that is, idiots and imbeciles. These children are cared for by matrons rather than by trained teachers, and if they show improvement they are promoted into the beginning classes at the development centers.

Highland Park and several other cities have their "restoration rooms." In Highland Park a "retention survey" is made by the Psychological and Psychiatric Clinic under the research department, and those children with an I. Q. of 75 and below are recommended for special classes, while those children testing 95 and above are recommended for restoration rooms.

These rooms—there are two for primary, I-B through II-A, and two for older children, III-B through V-A—were organized for the purpose of studying the causes of failure when a child has been present daily and seemed to have no special disabilities, had been absent on account of illness, or had not been able to adjust himself when entering late from another school system. There are two each of such rooms in two buildings so that a child may pass on to upper-grade work if it has been necessary to start him all over again in primary work, or he may go from one teacher to the other for special-class work.

As soon as the teachers of the restoration rooms feel that a child is ready to return to his own room or school, he is tried in the corresponding room in the building where the special class is located so that he may have an opportunity to be judged in comparison with other children of his own grade. When the teacher of this grade can report success, the child is then transferred to his own building.

The Bureau of Curriculum Development, Research, and Guidance under its former director, Dr. Virgil E. Dickson, developed an elaborate program of "limited" sections for pupils "who are so slow in their learning process that they cannot work with profit in a regular section." These sections are organized at successive curricular levels so as to provide for continuous progress through the grades but at a rate slower than the regular classes. The course of study consists of projects and problems simplified to meet the capacity of the pupils but based upon the regular course of study. The bureau authorizes the organization of the classes and determines the student personnel, but the classroom

activities are supervised by the regular corps. The program of special classes which perhaps may be said to be the crowning achievement of the Bureau under Dr. Dickson has been continued and perfected by the present director, Mr. Rudolph D. Lindquist. In addition to the usual battery of special classes, the Oakland Bureau has also organized classes for crippled children at their homes.

Research bureaus in city systems, however, are not alone in their service to the cause of special education. The Bureau of Special Education which was created by the Ohio General Assembly and placed under the administration of Miami University on December 30, 1920, was designed by legislative enactment "for the training of teachers for subnormal and delinquent children." Through the initial appropriation and subsequent grants, the Bureau now possesses for this purpose one of the best libraries of books and journals in its field, and through its cooperative arrangement with the Dayton Board of Education, it has ample field for laboratory facilities. Students thereby have access to special classes for mentally deficient, backward, delinquent, crippled, deaf, visually handicapped, and speech-defective pupils, and to private schools and public institutions which care for these different types of handicapped children. The preparation of teachers and supervisors of special classes is regarded by the Bureau as one of its most important functions.

Teacher training of this kind is carried on by several bureaus in higher institutions. The New York bureau has been especially active in promoting the organization and extension of these classes and in determining the need for them throughout the state.

In conclusion, it may be pointed out that research bureaus through their techniques for segregating the mentally subnormal have been in a position to render great assistance to school administrators in the selection of student personnel, in the training of teachers, and in the determination of educational needs. The results have been a great increase in the number of types of special classes and a much clearer conception of the ends to be achieved and of the capabilities of the pupil personnel.

ON THE FIRING LINE

High-school news-bearers are "The Spectrum" from Avon Lake and "The Purple and Gold" from Mechanicsburg. The latter is published "every once in a while."

Eight of the Franklin County high schools are cooperating with County Superintendent Beery to issue school papers. We are in receipt of copies of "The Flashlight," "The Candle," "The Mirror," and "The Hamiltonian." These papers are all four pages; the local schools supply the material for the first and last pages, and the county office supplies news for the middle pages.

The English teachers in the Fremont high schools have been cooperating in a revision of the course of study in English. Tests are being used as an aid to the instruction in English. The tests consist of a reading examination, a spelling test, and compositions to be graded by the Hudelson Scale. The results of the reading test show a surprising range, or spread, in reading ability from grade to grade.

The Board of Education of Springfield purposes to use the surplus of $147,000, which has accumulated in the general fund, for the erection of a new grade

building to do away with seventeen portables. President Lewis, of the Board of Education, estimates that this plan will save the taxpayers at least double that sum, since they will not have to issue long-term bonds and pay interest on them.

A course in vocational and educational guidance is being offered in the Fremont high school for the first time this year. The course is for all ninth-grade pupils and consists mostly of social science for the first semester.

County Superintendent Joseph W. Fichter, of Butler County, is attempting to take the measure of his schools this year. Dr. Ashbaugh is directing the testing program which consists of intelligence tests in the grades and high schools as well as subject tests in both groups of schools.

The Fremont high schools are offering for the first time this year numerous try-out courses in the ninth grade. A few of the subjects offered are junior business training, stenography, bookkeeping, shop, trades, agriculture, and home economics. The performance of the pupils in these courses will determine the direction of guidance in the senior high school.

What topics should be treated in an educational-guidance manual? Principal M. M. Mansperger, of the Zanesville High School, presents the following as necessary contents: (1) general suggestions on choosing a course; (2) value of a high-school education; (3) factor on which a high-school education depends; (4) how to plan a complete four-year course; (5) descriptions of the courses offered by the high school; (6) suggestive courses leading to definite vocations; (7) student organizations and activities; (8) suggestions with reference to college; and (9) helps in choosing a vocation.

For the past two years the Crestline schools have been checking on "vacation losses" due to the long summer vacation. The report of the second study is very interesting as an indication of what can be done with a little care. The first and second grades lose most, and the upper grades least. Second-grade arithmetic shows the greatest subject loss, and fifth-grade geography the least loss. In only two subjects, sixth-grade history and seventh-grade English, was a gain recorded.

In the Fremont junior and senior high schools the pupils are being grouped according to a homogeneous plan. C. A. Hudson, principal, says that in the junior high school the grouping has been on the basis of mental tests, achievement tests, and the judgment of teachers. In the senior high school the grouping is largely on the basis of courses elected, such as college preparatory, science, trades, commercial, home economics, or agriculture. "This makes it possible to adapt instruction to the needs of the pupils better than ever before."

Miss Ruth Dawson, of Central High School, Akron, tells in some detail of the city's provision for under-nourished children:

> Six schools in the city of Akron are equipped with open-window rooms. In each school, there are two such rooms in which 30 pupils may be accommodated, totaling 360 for the entire city. According to George E. McCord, Superintendent of Schools, there is a waiting list as large as the present number enrolled in the fresh-air rooms.
>
> Pupils are assigned to such schools by the medical staff of the City Health Department. Records are kept each day and a medical inspection is made each month so that the health of the child is under constant observation. Before entrance into the school, permission must be granted by the parents; and, before dismissal from the open-window room, examination by the doctor must find the child at least 95 percent fit.
>
> The pupils have their own dining-room and are served a breakfast in the morning about ten o'clock. Lunch is served at noon, and milk and

wafers or malted milk and cookies are served in the afternoon. All meals are prepared by the students in home economics under the direction of an instructor. The menus are so varied that the same meal is served not more than once in every three weeks. The menus which provide well-balanced meals were planned by an expert dietitian.

Pupils who attend the open-window room are in school the same number of hours as are those who attend the regular sessions of the public school, except that time for rest and recuperation is allowed each day. In the morning there are classes until breakfast time. After breakfast classes continue till 11:30, when lunch is served. Immediately after lunch the pupils go to the sleeping rooms where they don their heavy sleeping bags and hoods. This period of rest continues for one hour. The remainder of the afternoon session is occupied with lessons.

Open-air playgrounds are provided so that these pupils may play out of doors and yet not mingle with the children of the school. These playgrounds are frequently arranged on the roof of the gymnasium or some other convenient place.

Not only children with tubercular tendencies but those suffering from nervous disorders, malnutrition, or anaemia are cared for in the open-window rooms. The six schools having the special rooms are supported by the Board of Education just as any public school. Akron is planning further provision for these handicapped children and hopes in the near future to install more of these fresh-air schoolrooms.

EDUCATIONAL READINGS

DEARBORN, FRANCES R. *What Does Honesty Mean to Third- and Fourth-Grade Children*, *JEM*, 6:205–12, January, 1927.

This article reports the procedure followed in a study conducted in the Los Angeles schools to determine what children of these grades understood by honesty, the difficulty they had in defining honesty in various situations, and the methods that seemed best in making honesty "real to the children—not an abstract something." It is worth while, for instance, to know that children of these grades can define honesty in lying situations much more readily than they can in such other situations as cheating, stealing, and the withholding of confessions. This study is similar in nature to others done by Meltzer, Helseth, W. J. Osburn, and others.

ENGELHARDT, N. L., AND ENGELHARDT, FRED. *The Financial Statements and Reports of a Local School Administration*, *TCR*, 28:611–24, February, 1927.

Private enterprise has long recognized the importance of presenting financial conditions in clear and understandable reports, but school people are just beginning to realize their value. The nature of financial reports and basic principles for the preparation of them are set forth in this article which is the fifth of a series of eight on the business management of schools.

STURTEVANT, SARAH M., AND HAYES, HARRIET. *The Use of the Interview in Advisory Work*, *TCR*, 28:551–63, February, 1927.

Teachers and principals will find this article worthy of attention. It presents very clearly the more important steps to be followed in an interview, especially the disciplinary kind. The purpose of the interview is to help the person who is interviewed, and not to create an arbitrary decision on the part of the interviewer.

GILMORE, M. E. *Coaching for Intelligence Tests*, *JEP*, 18:119–21, February, 1927.

The Otis group test was given to two groups of students at the same time. Following this, one group was coached for a period of twelve weeks by being given material similar but not identical to that in the Otis test. At the end of the coaching period, both groups were again given the Otis test. The average gain in percent of the coached group was twice as great as that of the control group, and the students making the lower scores on the original test made the greatest gain when the same test was repeated. The writer concludes that "Material for intelligence tests should be non-coachable if it is to measure accurately and fairly a degree of intelligence."

LUDEMAN, W. W. *Selection and Elimination of Teacher-Training Material*, *EAS*, 13:120–24, February, 1927.

A questionnaire which was designed to ascertain what is being done by the teacher-training institutions to select teacher-training material before registration and to eliminate material after registration was sent to a hundred colleges distributed throughout the entire United States. On the basis of 58 replies the writer concludes that: "Most teacher-training institutions favor a program of selection and elimination." Selection is accomplished on the basis of

NOTE.—The abbreviations used in this number are: *JEM*, Journal of Educational Method; *TCR*, Teachers College Record; *S&S*, School and Society; *JEP*, Journal of Educational Psychology; *EAS*, Educational Administration and Supervision; SR, School Review; *PJE*, Peabody Journal of Education; *JER*, Journal of Educational Research; and *ASBJ*, American School Board Journal.

intelligence tests, recommendations from high-school principals, health certificates, and by taking only those who fall in the upper percents of the graduating classes. Eliminations are brought about by requiring a definite scholastic average in order to enter certain prescribed professional courses.

OHLSON, DAVID. *School Marks vs. Intelligence Rating*, *EAS*, 13:90–102, February, 1927.

This is a report based on the study of the marks of 506 graduates of the high school at Everett, Washington. The correlation between the Terman group scores and the average marks for all students (Pearson product-moment formula) was .38 + .03. Among the conclusions the following are significant: "Departments giving the largest percentages of high marks show the least correlation between intelligence and marks." "'Thing subjects' show poorer correlation with Terman scores than 'think subjects.'" "The Terman test is a better prognosis in the case of girls than of boys."

GARDNER, C. A. *A Study of the Causes of High-School Failures*, *SR*, 35:108–12, February, 1927.

It is interesting to note that the teacher is partly responsible for the failures, according to the pupils, although there is no such evidence in the causes as stated by the teacher. On the other hand, many of the causes stated by the teacher are frankly admitted by the pupils. The writer concludes that "when approximately one-third of the pupils failing in high school reports 'dislike the teacher,' another third reports 'discouraged,' and somewhat less than one-half reports 'dislike the subject,' a grave situation exists which challenges the best thought of the educator."

MARSHALL, G. H. *The Status of High-School Athletics in Kansas*, *SR*, 35:113–20, February, 1927.

Data based on reports from seventy-seven representative towns in Kansas show rather conclusively that the high schools are interested in three major lines of sport—basketball, football, and track—and that these sports are almost equally emphasized. It is admitted that the athletic program interferes with the regular school work. A considerable number of the schools admit betting on the part of the pupils and other situations exist which are highly undesirable.

BIDDLE, ANNA E. *Low I. Q.'s in the High School*, *SR*, 35:134–46, February, 1927.

This is a story of what has been going on in the South Philadelphia High School for Girls since 1923. It does not lend itself well to briefing but any teacher or high-school principal who has the practical problem of the low intelligence quotient in his own school and has some imagination will find much of decided interest in the article because it tells of something that has actually been done.

STETSON, F. L., AND WOOTON, F. C. *A Study of the Social Science Teachers in Oregon High Schools, 1925–1926*, *EAS*, 13:73–84, February, 1927.

For this study, data were secured on 408 teachers of social science in high schools outside of Portland. Geographical sections from which the teachers came, institutions at which they were trained, the subject combinations they taught, and the special training which they had for their work were all considered and comparisons made with one or two similar studies made elsewhere. Perhaps the most significant of the conclusions is: "It is next to impossible to advise a prospective teacher as to the most likely subject combinations to prepare for, because of the great uncertainty as to the requirements of the high schools."

BURTON, MRS. CASSIE B. *A County Program of Investigation in Reading*, *PJE*, 4:225–33, January, 1927.

A county-wide reading program was carried on in Hamilton County, Tennessee, and the results are reported in this article. There was enthusiastic cooperation on the part of teachers and pupils. Aside from the great increase in reading as shown by tests, the teachers and pupils developed a more scientific attitude toward their work.

PATTERSON, HERBERT. *The High-School Curriculum as It Is*, *PJE*, 4:218–24, January, 1927.

This study of the curricula of Oklahoma high schools shows a gradual increase in the more general courses such as history, economics, sociology, and general science. The falling off seems to be in the subjects which cost most. Are financial influences most potent in shaping high-school curricula? This study seems to indicate that they are powerful factors.

MEAD, A. R. *How Many Subjects Should a High-School Teacher Be Prepared to Teach?* *PJE*, 4:195–207, January, 1927.

Most beginning teachers start their work in rural, village, and small city high schools, where they are required to teach from one to five, and in some cases, six subjects. The author concludes that the training schools should train teachers to teach at least three subjects. There should be specialization in at least one field, but a distribution of effort over three or more subjects is probably to be preferred over high specialization in one field.

TOOPS, HERBERT A. *On Computing the Average Deviation from the Mean*, *JER*, 15:46–51, January, 1927.

This is a purely statistical article presenting a method and a form for computing the average deviation from the manipulation to derive the constant for determining the mean. "By this method the average deviation which was formerly the hardest of all measures of variability to reckon, becomes by far the easiest."

HERTZBERG, O. E. *The Interest Factor as Related to Methods of Introducing Beginners to Writing*, *JER*, 15:27–33, January, 1927.

Four methods of teaching beginners to write were employed and the results of the study are given in this article. The old direct method seemed to increase in interest as the children used it while the other methods tended to decrease in interest.

JENSEN, DORTHA WILLIAMS. *The Gifted Child*, *JER*, 15:34–45, January, 1927.

This article, which is the first of a series of three under the same title, summarizes the findings that have been made in the studies of gifted children. Some of the common notions are shown to be without adequate foundation, and suggestions are made which would make for the better development of the gifted child.

YOWELL, STELLA. *Are Children Reading?* *JER*, 15:1–4, January, 1927.

The results seem to indicate that the average child is not reading as much as the author thinks he should. There are no data from previous tests of a similar nature to support the conclusion. "The disappearance of the old-fashioned home where children and parents read aloud to each other, the lure of the motion-picture theater, and the coming of the automobile are partially responsible for the low scores" seems to be a somewhat gratuitous conclusion.

ELDER, HARRY E. *A Study of Rapid Acceleration in the Elementary School*, *JER*, 15:5–9, January, 1927.

Twenty-two pupils were accelerated by double promotion, and the results were studied statistically. The children who stood comparatively low in their groups before receiving the double promotion tended to suffer a greater reaction due to skipping. It seemed to be hardest to skip the second grade and easiest to skip the fifth.

WAPLES, DOUGLAS. *The Best-Answer Exercise as a Teaching Device*, *JER*, 15:10–21, January, 1927.

The pupil's thinking is directed by restricting the considerations which apply to a given situation. Thinking is stimulated by requiring the pupil to discriminate amongst a series of possible answers. Illustrations from several subjects, and a table showing the elements of the best-answer exercises in the different subjects serve to illuminate the text.

MORRIS, EMMET L. *Iowa's New Uniform School Accounting System*, *ASBJ*, February, 1927.

Iowa has a new uniform school-accounting system which is here explained in detail. Illustrations are given of the various forms used in this accounting. A casual inspection would seem to indicate that the system is usable for practically all sizes and types of schools.

MICHAEL, WILLIAM, AND CRAWFORD, C. C. *An Experiment in Judging Intelligence by the Voice*, *JEP*, 18:107–14, February, 1927.

This experiment was based on the teaching of behavioristic psychology that thought is identified with language mechanisms. Fifty-six students were asked to read aloud passages from three literary selections totaling about 500 words. Inflection was the voice factor which was particularly noticed and the experimenters found that the correlation between it and scholarship was approximately the same as between intelligence tests and scholarship. "Scholarship, intelligence, and inflection are about equally intercorrelated, and any one of the three is about as safe a basis for predicting another as any two combined."

BECKINGTON, LULU B. *Experiences with a Vocations Program in Home-Room Organization*, *TCR*, 28:563–79, February, 1927.

This is the result of an experiment which was carried on in the Central High School at Tulsa, Oklahoma, during the year 1924–25. The work, done in the home-room period of twenty-five minutes each day, was participated in by 825 Sophomores, 25 home-room teachers, and a committee of four teachers, besides the class director. The work of the year showed positive results in influencing the choice of vocations and in giving the pupils a better understanding of the range of vocational opportunities.

THORNDIKE, EDWARD L., AND OTHERS. *An Inventory of English Constructions with Measures of Their Importance*, *TCR*, 28:580–610, February, 1927.

"It is of obvious importance to the teaching of English to have an adequate and accurate list of English constructions; and to have at least an approximate estimate of the importance of each of them. Other things being equal, the greater the importance of the construction, the earlier its understanding and use should be taught, both to natives and to foreigners learning English." The 438 constructions with their frequency and general value are listed.

IN PAPER COVERS

Chase, Wayland Johnson. *The Ars Minor of Donatus.* Madison, Wisconsin, University of Wisconsin, 1926. 55 pp. (University of Wisconsin Studies in the Social Sciences and History, No. 11)

This is the first translation, so far as the author knows, of the most commonly-used grammar between 400 A. D. and 1500. No other grammar in the Middle Ages, according to data given in the introduction, exerted an equal influence upon the learning of Latin, upon the form that Latin grammars have taken in the modern age, or upon the terminology of the grammars of various vernaculars of Western Europe, especially English. A parallel arrangement is used in the makeup of the monograph so that the Latin and its corresponding translation appear on opposite pages. Professor Chase is to be congratulated on this scholarly endeavor which is of interest not only in the history of education, but in the history of our language.

McCluskey, F. Dean. *The Purpose and Function of the Division of Educational Reference.* Lafayette, Indiana, Purdue University, 1926. 30 pp. (Bulletin of Purdue University, Vol. XXVI, No. 10, Studies in Higher Education, No. 1)

Purdue University has organized a division of educational reference for a study of its educational problems. Such a division should render a very valuable service to administrative officers in their study of the perplexing problems of higher education.

This first report indicates that the division is already beginning to function. Eight problems have been studied and preliminary reports given. The problems under investigation vary from an enrollment study to "an experimental examination and analysis of the efficiency of teaching."

Rochester, New York. *The Public-School Program.* Rochester, New York, Rochester Printing Company, 1926. 94 pp. (*Democrat and Chronicle* reprints, No. 3)

From a recent inquiry into the costs of city government in Rochester, it appeared that the cost of public-school education had increased from one-quarter to one-half of the city's budget within the last ten years. Since this remarkable increase was due to the extensions of the compulsory-attendance age limits and additions to school program, a series of short articles, describing in a simple way the contents of the school program, were published in the *Democrat and Chronicle* from March 15 to July 1, 1926. By this means, the school authorities hoped to provide adequate information for the citizens—information which would assist them in deciding whether to support or oppose further and similar expansions of the school program. The series of articles is reprinted in this pamphlet and gives a unique example of continued school publicity.

Shelley, T. H., Pittinger, B. F., and Manuel, H. T. *Survey of Galveston Public Schools.* Austin, Texas, University of Texas, 1926. 117 pp. (University of Texas Bulletin, No. 2630)

This is the report of another school survey. Buildings and equipment; school finance and teachers' salaries; child-accounting; and the curriculum are considered.

Bridgeport, Connecticut. *Housing Bridgeport's School Children.* Prepared by the Superintendent of Schools, Bridgeport, Connecticut, 1926. 16 pp.

This report of the schools in Bridgeport, Connecticut, shows by a series of tables the present housing conditions in the schools. A five-year building program based on the population growth is outlined for the elementary, junior, and senior high schools to meet the needs of 1931.

Iowa, University of. *Status of Commercial Education in Secondary Public Schools of Iowa.* Iowa City, Iowa, University of Iowa, 1926. 42 pp. (Extension Bulletin No. 144, College of Education Series, No. 19)

This is the first unit of a series on commercial education in the Iowa public schools. Such factors as the age, training, business experience, salaries, teaching experience, tenure, teaching-load, and extra-curricular activities of commercial teachers were investigated and summarized for this report. The frequency of commercial subjects, subject combinations, and size of class are also reported.

Hatch, R. W., and Stull, DeForest. *The Social Studies in the Horace Mann Junior High School.* New York, Bureau of Publications, Teachers College, Columbia University, 1926. 97 pp.

This monograph outlines the work that is being done in the social studies in this well-known experimental school. It presents the content and methods employed in organizing and operating the new fusion course of study in the social studies, about which the principal, Prof. Henry C. Pearson, says in the introduction: "This fusion course in the social studies is probably the most popular and stimulating of all the studies in the junior high school." A careful examination of this monograph should afford the teacher or supervisor of these studies in the junior high school with some very definite and helpful suggestions in the way of objectives, organization, method, and materials.

BOOKS TO READ

OSBORN, HENRY FAIRFIELD. *Evolution and Religion in Education.* New York, Charles Scribner's Sons, 1926. xvi + 240 pp.

This volume contains a series of addresses which were given before audiences of teachers and college students, and were published in the *New York Times* and the *Forum* during the Fundamentalist controversy. The general reader will find herein an equable interpretation, by a scientist, of most of the questions of this religious controversy.

MAWSON, C. O. SYLVESTER. *Style-Book for Writers and Editors.* New York, Thomas Y. Crowell Company, 1926. 213 pp.

Graduate students and writers of magazine articles, as well as the authors of books, are often perplexed regarding the correct use of a word, the proper punctuation mark to use, the form of book citations, the relation of the reference index to punctuation marks, and the like. Answers to these and many other perplexing problems of style in writing will be found in this Style-Book prepared by a one-time associate editor of the Webster Series of Dictionaries and reviser of *Roget's International Thesaurus.* Such matters of interest to the writer as spelling, compounding and division of words, capitalization, and punctuation are considered. Information is also given on the sizes and styles of type, spacing, indention, preparation of the manuscript, and proof-reading. The rules are tersely stated and most happily illustrated.

WASHBURNE, CARLETON, AND STEARNS, MYRON M. *New Schools in the Old World.* New York, The John Day Company, 1926. 174 pp.

In this little book the authors give in a clear, simple, and concise manner some of the chief characteristics of a dozen outstanding progressive schools of Europe. To read the book is to become interested, because of the practices followed in these schools and because of the style in which these practices are brought to our notice. It seems almost incredible that in Hamburg they have "schools with no program, no course of study, no grades, no rules, no punishments," and it is stimulating to know of the "Orphans' Paradise in Czecho-Slovakia" and Bakule's School in Prague as the authors have described them, after actually witnessing the activities of such schools.

DOERMAN, HENRY J. *The Orientation of College Freshmen.* Baltimore, Maryland, Williams and Wilkins Company, 1926. 162 pp.

The extraordinary increases in college and university enrollment within the last ten years have intensified the problems presented by the Freshmen in all institutions. The consideration of the orientation of the Freshman, given in this book, falls into three parts: the statement of the problem, current practices with respect to the problems of orientation in representative American colleges, and a suggested guidance program. The personnel service, needed to carry out this guidance program, is discussed in some detail. The program falls into three periods, guidance before registration, during the registration period, and during the freshman year.

ANDERSON, LEWIS FLINT. *History of Manual and Industrial School Education.* New York, D. Appleton and Company, 1926. vi + 251 pp.

This book is devoted to a phase of the history of education which often receives little attention. The author's contribution in this volume should do much to establish a better balance between the literary and industrial factors in educational history. It will be especially valuable in industrial and vocational courses in normal schools and colleges.

CLIPPINGER, WALTER G. *Student Relationships.* New York, Thomas Nelson and Sons, 1926. xi + 145 pp.

Dr. Clippinger's book, which is intended as an orientation course for college Freshmen and high-school Seniors, takes up the personal, social, and spiritual relations of students. Many suggestions to aid the student in adjusting himself to college life are given on such subjects as "Note Taking," "How to Study," and the values of examinations and recitations. Topics for discussion and bibliographical references are given at the end of each chapter. The book is similar to those written by Dean Thomas Arkle Clarke on problems of college life.

HELSETH, INGA OLLA. *Children's Thinking.* A Study of the Thinking Done by a Group of Grade Children when Encouraged to Ask Questions about United States History. New York, Teachers College, Columbia University, 1926. v + 163 pp. (Teachers College, Columbia University, Contributions to Education, No. 209)

The thinking of a group of seventh- and eighth-grade pupils belonging to an American-history class yielded interesting results. The pupils were encouraged to ask questions and to discuss any points which interested them, as well as to use the methods of studying and reciting which appealed to them. At the beginning, the pupils found it difficult to formulate questions worth considering. Before the practice period was over, they had acquired considerable skill in asking questions. In spite of the unconventional school atmosphere, the pupils mastered the content, for when judged by standardized tests, they excelled the norms set by their grades.

NEW TESTS

An ingenious little device for calculating the ages of children at a given date has been developed by H. H. Young, of Indiana University, and put on the market by the Public School Publishing Company, Bloomington, Illinois.

The O'Rourke Mechanical Aptitudes Test—Junior Grade, has been added to the O'Rourke Series of Aids in Placement and Guidance. These tests may be obtained from the Educational and Personnel Publishing Company, Washington, D. C.

The Public School Publishing Company has added the Kinney Scales in Commercial Arithmetic to its already long line of serviceable tests. These tests have been prepared by Lucien B. Kinney and are designed to cover in test form the entire field of commercial arithmetic.

Standard tests are gradually being evolved for college subjects as well as for elementary- and high-school subjects. C. W. Odell has standardized a test for Principles of Teaching in Secondary Schools. The test is on sale by the Public School Publishing Company.

The three subtests, Word Recognition, Word, Phrase, and Sentence Reading; and Reading of Paragraphs, included within the Gates Primary Reading Tests have been designed to measure different phases of reading ability. To secure the most valuable diagnosis all three types must be given. Two equivalent forms of each subtest have been prepared. The "Manual of Directions" tells, in detail, of the care taken in constructing the tests, describes the uses to which the age and grade norms may be put in diagnosis, and suggests remedial measures which will help in overcoming certain of the pupils' deficiencies. These tests were devised by Arthur I. Gates and are distributed by the Bureau of Publications, Teachers College, Columbia University.

Friends of good diction will find the Schutte English Diction Test of more than passing interest. The test is based on a readable story which contains, here and there, certain common errors of diction. Pupils are required to check the errors. This test is published by the Public School Publishing Company.

Composition tests for the elementary grades may now be obtained from the Public School Publishing Company. The Pressey Tests in English Composition which have been so widely used in the high schools have been adapted to Grades III to VI.

Superintendent W. C. T. Adams, of Keene, New Hampshire, has arranged in concise form a card entitled, "Superintendent's Rating of Teachers." Teaching power, executive ability, scholarship, personality, and professional attitude are each allowed a possible 20 percent in the total of one hundred.

The problem of English composition "resolves itself into habit building, the transforming of textbook knowledge of correct expression into habits of correct expression." Such being the case, what is more natural than that practice sheets which cover the various phases of English instruction should be developed? A recent set of these tests is known as Practice Leaves in English Fundamentals, prepared by Conrad T. Logan, Elizabeth P. Cleveland, and Margaret V. Hoffman, of State Teachers College, Harrisonburg, Virginia. These exercises are published in convenient form by D. C. Heath and Company.

The Detroit line of tests has been increased by three intelligence tests for use in Grades II to XII. These are a needed addition to the Detroit Kindergarten and the Detroit First-Grade Tests. The tests have been developed by Harry J. Baker in his work as clinical psychologist in the Detroit schools. The instructions for using the tests are very simple, so that the tests are easy to administer. The items are carefully arranged, from difficult to complex, and are designed to cover the entire range of mental ability. The Public School Publishing Company is acting as publisher and distributor.

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DURING the Ohio Educational Conference at Ohio State University, an exhibit of drawings, paintings, and designs done by students in the Ohio colleges will be held in the Mantel Room of the Library. This exhibit was planned by the Fine Arts Committee of the American Association of University Women and was born of their interest in the fine arts courses given in the Ohio colleges and of their desire to encourage advanced study in these branches. The committee felt that the exhibit would be of value to the Ohio teachers of art by showing them the type of work being done in the colleges.

To stimulate interest in their plan, the American Association of University Women is offering a prize of twenty-five dollars to the student whose work is judged to be the best. The only condition that the association imposes is that the student shall be fully matriculated and shall be studying for a degree, such as B. A., B. S., B. L., B. Ph., (or some other Bachelor's degree requiring at least two years of work that would be credited toward the B. A. degree) or one of the graduate degrees.

The art teachers who wish to enter the work of one to three of their best students in water-color or oil painting, or in drawing or design, should send this work to Miss Alma Knauber, Department of Fine Arts, Ohio State University, before April 6. Drawings and designs should be mounted ready, to be exhibited. Paintings may be framed or unframed.

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THE February number of *School Review* gives the report of a survey of curricula in seventy-eight junior high schools distributed among twenty-seven states, from Massachusetts to California.[1] English is the only subject of instruction which is required in each of the schools in all three grades, VII, VIII and IX. Social studies and mathematics, it was found, are required in all seventh grades. The following table presents a composite program of studies for junior high schools which is based on the practices of the seventy-eight schools in this survey:

Grade and Study	Average Number of Periods a Week
SEVENTH GRADE	
English*	7
Social studies*	6
Mathematics	5
Industrial arts	4
Home Economics	3
Health	3
Music	2
Art	2
EIGHTH GRADE	
English	5
Social studies	5
Mathematics	5
Home economics	4
Industrial arts	3
Health	2.5
Science	3
Music	2
Art	2
Foreign language†	5
Commercial subjects†	4
NINTH GRADE	
English	5
Social studies	5
Mathematics	5
Health	2
Foreign language†	5
Home economics†	5
Commercial subjects†	5
Science†	5
Music†	3
Art†	3

* Each of these subject groups has more than five periods a week because it comprehends two or more branches.
† Variable.

[1] Tryon, R. M., Smith, H. L., and Rood, A. F. "The Program of Studies in Seventy-eight Junior High-School Centers," *School Review*, 35:96-107, February, 1927.